

REMARKS

The Examiner is thanked for the due consideration of the application. This Amendment is being filed concurrent with a Request for Continued Examination.

Claims 1-12 are pending in the application. In the claim amendments the term "smooth" is replaced by "hollow" (hollow rod: page 5, line 22 of the specification), the structure of the rod as a "tube" (page 6, line 23) and the "plastic pipe" passing "through" the rod (page 6, lines 19-20 and page 3, lines 11-12). In addition, in claim 1 "at least one gas measurement probe" is replaced by "one probe for measuring the concentration of gas for a given gas," as is supported at page 4, lines 5-8. Independent claim 9 has been amended analogous to claim 1. Claim dependencies and claim language have also been improved.

No new matter is believed to be added to the application by this amendment.

Rejection Under 35 USC §112, First Paragraph

Claims 1-12 have been rejected under 35 USC §112, first paragraph as failing to comply with the written description requirement. This rejection is respectfully traversed.

The Official Action asserts that the limitation "smooth sampling rod" represents new matter. However, this limitation has been changed to recite "hollow sampling rod," which is clearly supported in the specification.

The present invention, as a result, was sufficiently described in the original disclosure to demonstrate possession of the present invention at the time the application was filed.

This rejection is believed to be overcome, and withdrawal thereof is respectfully requested.

Rejections Based on SCHNEIDER

Claims 1, 2 and 12 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER (U.S. Patent 4,670,148) in view of KATZ (U.S. Patent 4,838,733) and YAO (U.S. Patent 6,541,073).

Claims 3, 4 and 8 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER in view of KATZ and YAO, and further in view of NOBLE (U.S. Patent 4,442,974).

Claims 5, 6, 9 and 10 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER in view of KATZ, YAO, and NOBLE, and further in view of JOHNSON (U.S. Patent 4,026,355).

Claims 7 and 11 have been rejected under 35 USC §103(a) as being unpatentable over SCHNEIDER in view of KATZ, YAO, NOBLE, and JOHNSON, and further in view of JACKSON (U.S. Publication 2002/0023505).

These rejections are respectfully traversed.

The present invention pertains to a system for regulation and discontinuous measurement of an oxygen content or a content of any other gas in platforms for composting or

processing waste, in the form of swaths. The present invention is illustrated, by way of example, in Figure 3 of the application, which is reproduced below.

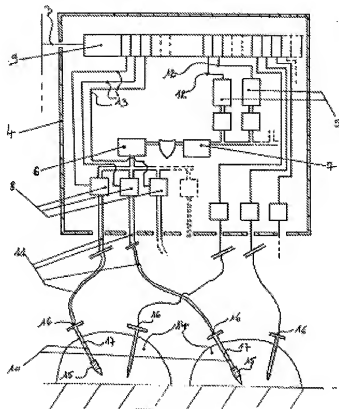


FIG 3

As is shown in the figure above, at least one remote bay has at least one gas measurement probe for measuring a concentration of a given gas, the measurement probe being at least one oxygen or CO₂ measurement probe. A gas intake pump and electric valves are operated by a program controller, and a pipe connects each of the electric valves to a gas sampling device, the electric valves being coupled to the pump allowing the air and the gases contained in this air at each sampling device to be drawn in successively and sent to the measurement probe.

The sampling device is a hollow sampling rod with two opposite ends able to be driven into the pile(s) of waste or compost (see Figure 4, reproduced below). Each one of the hollow sampling rods corresponds to one single pipe and being fitted with an air intake strainer at one end, the pipe being connected at the other end of the rod, and the oxygen measurement probe is able to supply within a very short response time the measurement of the oxygen content of several swaths. Consequently, this probe is a heated zirconium oxide sensor with a response time of less than ten seconds.



FIG 4

The structure of the sampling rod (hollow rod made of a tube) in which the plastic pipe is going through is not disclosed by the applied art. Moreover, the sampling rod and the plastic tube is a simple structure which allows easy adaptation and displacement of the sampling points within the dump. This is not

possible with the systems of the applied art, in which special work is required for installing the sampling heads in the dump and in which it is not possible to easily displace them. As plastic tubes are used (which are flexible/resilient), rods (which are rigid) must be used to be able to enter them into the dump.

In fact in the conventional plants, large and non movable pipes are inserted in the dump in order to remove gas such as methane and to use it in engines or other recycling devices. The network of pipes is permanently set once and for all and require large equipment.

On the contrary the present invention represents a technology that is light and easily movable. The rods may be placed and picked up at will in the dump. This allows the sampling of the gas, oxygen in this instance, for monitoring aerobic fermentation. This allows the commanding of air fans to inject air (and thus oxygen) in the dump. In addition, this light system can easily be serviced in case a plastic pipe is severed. A simple connector can be inserted between the two ends of the plastic pipe to make it operational again within a very short time. This cannot be compared to the systems of the cited state-of-the-art in which rigid means are used, which do not make them easily reconfigurable.

In addition, large pipes are used in known systems and this means that a huge dead volume of gas is present in those

pipes if sequential measurements were to be implemented between different pipes from different pits. In fact, those known systems are not suited for individually sampling numerous different pits and this is why in SCHNEIDER there is one sensor per pipe. This is contrary to the current invention, in which it is sufficient to have only one sensor for all the plastic pipes, the valves switching through, sequentially, in turn, each plastic pipe for each specific measurement. As a consequence, an important reduction of costs is realized because a sensor of the claimed type is not very expensive and only one is used in the current invention.

None of the applied art documents disclose a hollow rod in which a plastic pipe goes through ends in the strainer fitted at the end of the rod (and which is tapered)

For example, SCHNEIDER pertains to withdrawing gaseous decomposition products from a refuse dump. The Official Action refers to Figures 1 and 2 of SCHNEIDER, which are reproduced below.

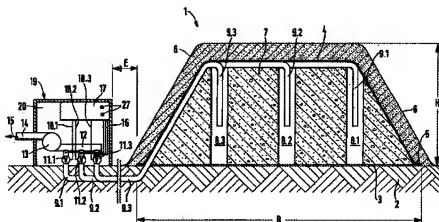


FIG. 1

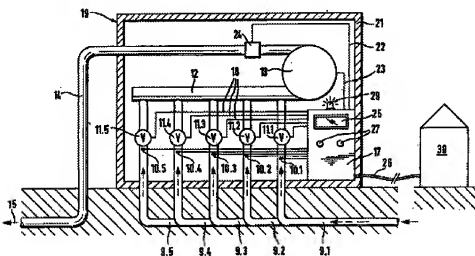
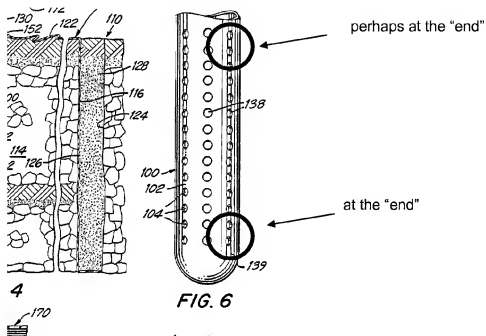


FIG. 2

In SCHNEIDER the pipes are in pits made in the dump and there is no strainer. Moreover, the pipes (except Figure 4) are not in contact with the dump and there is no reason for using a strainer in a system such SCHNEIDER's. In addition, this related art system is structurally rigid and not adaptable. There is one sensor for each pipe. The technical equipment is voluminous and is intended for the commercial use of gas produced in the dump.

The Official Action acknowledges that SCHNEIDER fails to disclose an air intake strainer. The Official Action refers to KATZ to address this deficiency, especially an annotated Figure 6 of KATZ, which is reproduced below.



However, In KATZ this is only a draw tube which is introduced and in contact with the dump and connected at its upper end to a pipe. This drawtube should be rigid to be introduced in the dump. Moreover the related system is a shared one as one pipe is related to many sampling zones and drawtubes. There is no teaching for having a plastic pipe inserted in a hollow rod and emerging in a strainer at the lower end of the rod. It is not possible to have specific local measurements with the KATZ system.

The Office Action turns to YAO for teachings pertaining to zirconium oxide. The paragraph at column 1, lines 19-28 states that zirconium oxide can be used as an oxygen sensor. However, YAO fails to disclose "a heated zirconium oxide sensor with a response time less than ten seconds," such as is set forth in claim 1 of the present invention. See also claim 9.

The other applied art references do not address the deficiencies of SCHNIEDER, KATZ and YAO discussed above.

One of ordinary skill and creativity would thus fail to produce a claimed embodiment of the present invention from a knowledge of the applied art references. A *prima facie* case of unpatentability has thus not been made.

These rejections are believed to be overcome, and withdrawal thereof is respectfully requested.

Conclusion

It is believed that the rejections have been overcome, obviated or rendered moot and no issues remain. The Examiner is accordingly respectfully requested to place the application in condition for allowance and to issue a Notice of Allowability.

The Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 25-0120 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17.

Respectfully submitted,

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